

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A micro electromechanical system switch including a fixed contact disposed on a substrate and a moveable contact disposed on an armature, the switch comprising:

a fixed electrostatic electrode and a moveable electrostatic electrode electrodes associated with both the fixed and moveable contacts for providing that provide an electrostatic switch operation;

a piezoelectric material with associated electrodes that, upon application of electric voltages, provides a piezoelectric switch operation that straightens for bending the armature upon application of electric voltages and providing a piezoelectric switch operation;

the armature having a being of curved shape which is and being bent away from the fixed contact when in a switch open condition with zero applied voltage;

the arrangement being such that operation of wherein, during the piezoelectric switch operation, the piezoelectric material brings bends the armature and the moveable electrostatic electrode towards the fixed contact and bends the moveable contact into a substantially parallel alignment with the fixed electrostatic electrode and the fixed contact and the moveable contact are spaced apart, and

wherein, during the electrostatic switch operation, for clamping of the fixed and movable contacts are brought into contact and clamped together and the switch is closed under electrostatic force from the electrostatic electrode electrodes.

2. (Currently Amended) The switch of claim 1, claim 1, wherein the fixed contact are transmission line contacts and the moveable contact is a switch contact for switching parts of a microwave system.

3. (Currently Amended) The switch of ~~claim 2~~claim 2, wherein the moveable contact is a switch contact ~~with having~~ at least two protuberances ~~for connecting that connect~~ two electrically isolated parts of a signal line together.

4. (Currently Amended) ~~A~~An actuation method ~~for of providing~~ a micro electromechanical system switch ~~having a movable armature mounted on and separated from a substrate, the method including~~ comprising the steps of:

providing a substrate ~~carrying~~having disposed thereon a fixed metal layer forming a fixed switch contact, electrostatic switch actuation electrodes, a fixed electrostatic electrode, and electrical interconnects;

providing an armature having a mechanical layer ~~carrying with~~ at least one movable switch contact for electrical switching ~~disposed~~ thereon, a moveable ~~an electrode~~ electrostatic actuation electrode, and ~~carrying~~ a layer of piezoelectric material between two electrodes, —————— the layers comprising the switch having variable in-plane stress and/or stress gradient across their thickness for causing the armature in ~~its free~~a free state to adopt a curved ~~conditions~~shape bending away from the substrate;

~~applying a voltage across the arrangement being such that operation of the piezoelectric material so as to straighten the armature and bends the armature towards the substrate and bends bring~~ the moveable electrostatic actuation electrode into a substantially parallel alignment with the fixed electrostatic electrode, ~~the fixed switch contact and the moveable switch remaining spaced apart;~~

~~applying a voltage to the electrostatic actuation electrodes so as to bring the moveable switch contact and the fixed switch contact into contact and clamp for clamping of the moveable switch contact to the fixed switch contact under electrostatic force to thereby close the switch, and;~~

~~removing the applied voltage from the piezoelectric material.~~

5. (Currently Amended) The method of ~~claim 4~~ claim 4, wherein the fixed metal layer forms a part of a coplanar waveguide transmission line and the fixed contact is a part of this-the coplanar waveguide transmission line.

6. (Canceled)